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| 23413 7590 05/29/2009 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103 | | | | |
| EXAMINER NGUYEN, HOAN C | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/646,008

Applicant(s)

MOON, SUNG-JAE

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-10, 13-15, 18-22 and 26-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10, 13-15, 18-22 and 26-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/20/09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant's arguments with respect to claims 1, 7, based on the Response filed on 12/13/2005 have been considered but are moot in view of the new ground(s) of rejection. Therefore, this is Final action.

Claims 6, 11-12, 16-17, 23-25 are cancelled. Claims 1-5, 7-10, 13-15, 18-22, 26-33 are pending.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of

- "a first driving signal wire 321... includes a first pad 321p connected thereto at a first end thereof and a second pad 322p connected thereto at a second end" as claimed in independent claim 1
- each connecting line is disposed between, and connected to, the driving signal line and the at least one of the plurality of gate lines, and the driving signal line and the connecting lines are disposed at substantially the same cross-sectional height from the substrate as claimed in independent claim 32.

must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 14, 30 and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The dependent claim 14 cites "shorting bar 320 connected the first driving signal wire". However, Fig. 3A shows that a shorting bar 320 intersecting also with the gate lines and the first/second signal wires. How do driving signals transmit with the shorting bar 320? The LCD cannot operate with shorting bar.

The dependent claim 30 cites "a shorting bar 320 intersecting the data lines and the first driving signal line". However, Fig. 3A shows that a shorting bar 320 intersecting also with the gate lines and the first/second signal wires. How does the first test signal transmit with the shorting bar 320? The LCD cannot operate with shorting bar.

Therefore, **LCD is operable only after the shorting bar is cut**. The operating LCD cannot include the shorting bar.

In Remarks filed on 5/11/2009, applicants mention that "the test voltage is not short-circuited across the shorting bar due to its removal prior to testing. Therefore, there is no problem in driving the LCD of the present application, as alleged by the Examiner". However, there is no claim cites step of "removing the shorting bar prior to testing". **Besides, this step of "removing the shorting bar prior to testing" should be in a method claim, it can not be in a device claim.** In a LCD device cannot be operated with existing the shorting bar.

1. Claim 32 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Going back to the amendment filed on 02/26/2008, the new claim 32 cited feature "each connecting line is disposed between, and connected to, the driving signal line and the at least one of the plurality of gate lines, and the driving signal line and the connecting lines are disposed at substantially the same cross-sectional height from the substrate", which does not disclose in the original specification. Therefore, this feature is new subject matter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 7 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The independent claims 1 and 27 cite "a first driving signal wire transmitting driving signals from an outside of the display panel to the first display signal lines, wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a first pad connected thereto at a first end thereof and a second pad connected thereto at a second end", That means "a first driving signal wire 321... includes a first pad 321p connected thereto at a first end thereof and a second pad 322p connected thereto at a

second end". However, the dependent claim 7 cites "a second driving signal wire 322 includes a second pad 322p connected thereto at its near end". Therefore, the first driving signal wire 321 cannot include second pad 322p, which is included with second driving signal wire 322 as shown in Fig. 3A-B. The first driving signal wire 321 must include only "a first pad 321p connected thereto at a first end".

Claim Rejections - 35 USC § 102

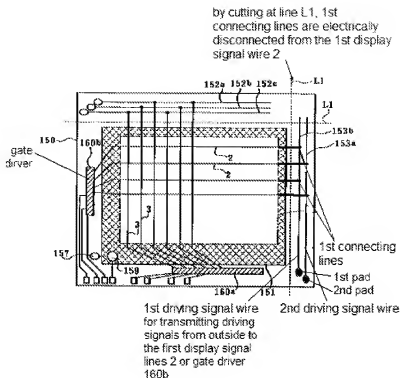
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 7-10, 13, 15, 18-22 and 26-29 and 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagata et al. (US006172410B1).

Nagata et al. teach (Fig. 17) a liquid crystal display device comprising:



Claim 1:

- a liquid crystal panel including
 - a first display signal wire having a plurality of a first display signal lines 2,
 - a second signal wire having a plurality of a second display signal lines 3 that cross the first display signal lines,
 - a plurality of switching elements (inherence for active matrix display) each of which is connected to both of one of the first display signal lines 2 and one of the second display signal lines 3, and
 - pixel electrodes inherently connected to the switching elements;
- a first driving signal wire 153b transmitting driving signals (an inspection scanning signal) from an outside of the display panel to the first display signal lines 2, wherein the first driving signal wire is separated from the first and

second display signal wires, the switching elements (inherence for active matrix display), and the pixel electrodes, and includes a first pad connected thereto at first end thereof and a second pad connected thereto at a second end thereof shown as above Figure 17 of Nagata et al. (these pads similar to the pads 321p/322p as shown in Fig. 3 of this invention application);

- a plurality of first connecting lines disposed between the first driving signal wire and a part of the first display signal wire 2, and connected to at least one of the first driving signal wire and the part of the first display signal wire.

wherein the first connecting lines are electrically disconnected from the part of the first display signal wire after cutting at the cutting line L1.

Claim 7:

- a second driving signal wire 153a transmitting driving signals for the first display signal lines 2, wherein the second driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

Claim 26:

- a second driving signal wire 153a transmitting driving signals from an outside of the display panel to the first display signal lines 2, wherein the second driving signal wire 153a is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

wherein

Claim 8:

- a distance between the first driving signal wire 153b and the first display signal wire 3 is smaller than a distance between the second driving signal wire 153a and the first display signal wire 2.

Claim 9:

- a plurality of second connecting lines disposed between the second driving signal wire 153a and at least another part of the first display signal wire 2, connected to at least one of the second driving signal wire 153a and the another part of the first display signal wire 2, wherein the second connected lines are electrically disconnected from the another part of the first display signal wire 2.

Claim 10:

- the first and second connecting lines are alternately disposed.

Claim 13:

- the first connecting line is electrically connected to the first display signal wire 2 and the first driving signal wire

Claim 15:

- the first driving signal wire further comprises a plurality of second pads connected at connections thereto at its intermediate portion.

Claim 18:

- the first driving signal wire extends to an edge of the panel.

Claim 19:

- the first display signal wire 153b transmits gate signals for inherently turning on and off the switching elements, and the second display signal wire transmits data signals for the pixel electrodes applied through the switching elements.

Claim 20:

- the first driving signal wire transmits a gate-off voltage or a ground voltage.

Claim 21:

- the first display signal wire transmits data signals for the pixel electrodes, and the second display signal wire controls turning on and off of the switching elements such that the transmission of the data signals to the pixel electrodes is controlled.

Claim 22:

- the first driving signal wire transmits gray voltages, a clock signal, or a driving voltage (an inspection scanning signal) to the drivers.

Claim 27:

- a substrate;
- a gate driver 160b disposed on the substrate;
- a plurality of gate lines 2 electrically connected to the gate driver 160b;
- a plurality of data lines 3 disposed substantially perpendicular to the plurality of gate lines;
- a plurality of switching elements (inherence), each switching element being connected to at least one gate line and at least one data line; and

- a plurality of pixel electrodes (inherence), each pixel electrode being connected to at least one switching element; and
- a first driving signal line 153b configured for transmitting driving signals from an outside of the display panel to the gate driver through gate lines 2 and also configured for transmitting a first test signal via a plurality of first connecting lines to at least one of the plurality of gate lines,

wherein each first connecting line is disposed between, and connected to, the first driving signal line and at least one of the plurality of gate lines.

Claim 28:

- the gate driver is an integrated chip or COG (Chip on Glass)

Claim 29:

- the plurality of first connecting lines is configured to be severable along a single linear cutting path along L1.

Claim 31:

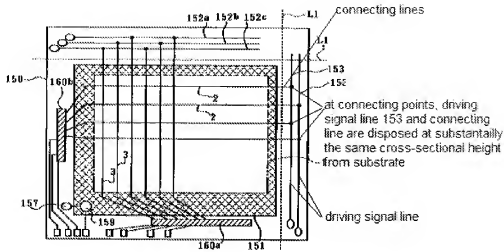
- a second driving signal wire 153a configured to transmit driving signals from an outside of the display panel to the gate driver (or gate lines) and also configured to transmit a second test signal via a plurality of second connecting lines to at least one of the plurality of gate lines,

wherein each second connecting line is disposed between, and connected to, the second driving signal wire and at least one of the plurality of gate lines, the second driving signal wire is disposed between the first driving signal wire and the plurality of gate lines, and the first connecting lines are longer than the second connecting lines

Claim 32:

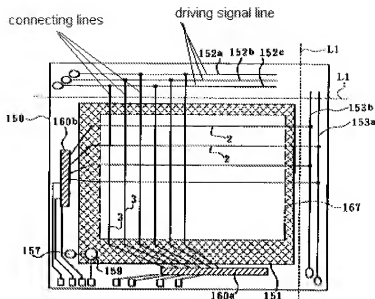
- a substrate;
- a gate driver disposed on the substrate
- a plurality of gate lines 2 electrically connected to the gate driver 160b;
- a plurality of data lines 3 disposed substantially perpendicular to the plurality of gate lines;
- a plurality of switching elements, each switching element being connected to at least one gate line and at least one data line; and
- a plurality of pixel electrodes, each pixel electrode being connected to at least one switching element;
- a driving signal line 153b configured to transmit driving signals from an outside of the display panel to the gate driver 160b through gate lines 2 and also configured to transmit a test signal via a plurality of connecting lines to at least one of the plurality of gate lines,

wherein each connecting line is disposed between, and connected to, the driving signal line and the at least one of the plurality of gate lines, and the driving signal line and the connecting lines are disposed at substantially the same cross-sectional height from the substrate at connecting points as shown in the below figure.



Claim 33:

- a substrate;
- a plurality of gate lines 2 disposed on the substrate
- a plurality of data lines 3 disposed substantially perpendicular to the plurality of gate lines;
- a data driver 160a electrically connected to the plurality of data lines;
- a plurality of switching elements, each switching element being connected to at least one gate line and at least one data line; and a plurality of pixel electrodes,
- each pixel electrode being connected to at least one switching element; a driving signal line configured to transmit driving signals from an outside of the display panel to at least one of the plurality of data lines and the data driver; and
- a plurality of connecting lines, each connecting line being disposed between, and connected to, the driving signal line and at least one of the plurality of data lines as shown in below figure:



(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-5, 7-10, 13, 15, 18-19, 20-22, 26-29 and 31 are rejected under 35

U.S.C. 102(e) as being anticipated by Kim et al. (US6636288B2).

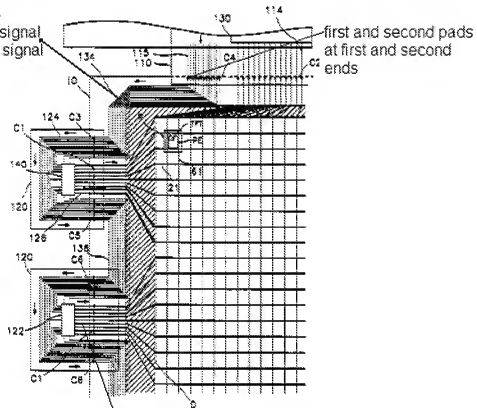
Kim et al. teach (Fig. 1) a liquid crystal display device comprising:

Claim 1:

- a liquid crystal panel including
 - a first display signal wire having a plurality of a first display signal lines 21,
 - a second signal wire having a plurality of a second display signal lines 61that cross the first display signal lines,

- o a plurality of switching elements TFT each of which is connected to both of one of the first display signal lines and one of the second display signal lines, and
- o pixel electrodes PE inherently connected to the switching elements;

conducting lines 134 including 1st driving signal wire and 2nd driving signal wire



first connecting lines disposed between the 1st driving signal wire and a part of the 1st driving signal wire

- a first driving signal wire 134 transmitting driving signals from an outside of the display panel to the first display signal lines 21, wherein the first driving signal wire is separated from the first and second display signal wires, the switching

elements, and the pixel electrodes, and includes a first pad C4 connected thereto at a first end and second pad C4 thereto at a second end thereof;

- a plurality of first connecting lines (between the chip 120/122 and the contact C1) at disposed between the first driving signal wire and a part of the first display signal wire 21, and connected to at least one of the first driving signal wire and the part of the first display signal wire.

wherein the first connecting lines are electrically disconnected from the part of the first display signal wire before contact at C1

Claim 7:

- a second driving signal wire transmitting driving signals 134 for the first display signal lines 21, wherein the second driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

Claim 26:

- a second driving signal wire 134 transmitting driving signals from an outside of the display panel to the first display signal lines 21, wherein the second driving signal wire 134 is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end.

Wherein

Claims 2-4:

- a plurality of drivers respectively connected to the first driving signal wire, wherein each of the drivers is in the form of a chip and each of the drivers is formed on the liquid crystal panel.

Claim 5:

- each of the drivers is directly connected to the first driving signal wire.

Claim 8:

- a distance between the first driving signal wire 134 (inside) and the first display signal wire 21 is smaller than a distance between the second driving signal wire 134 (outside) and the first display signal wire 21.

Claim 9:

- a plurality of second connecting lines disposed between the second driving signal wire 134 and at least another part of the first display signal wire 21, connected to at least one of the second driving signal wire 134 and the another part of the first display signal wire 21, wherein the second connected lines are electrically disconnected from the another part of the first display signal wire 21.

Claim 10:

- the first and second connecting lines are alternately disposed.

Claim 13:

- the first connecting line is electrically connected to the first display signal wire 21 and the first driving signal wire

Claim 15:

- the first driving signal wire further comprises a plurality of second pads connected at connections thereto at its intermediate portion.

Claim 18:

- the first driving signal wire extends to an edge of the panel.

Claim 19:

- the first display signal wire 134 transmits gate signals for inherently turning on and off the switching elements, and the second display signal wire transmits data signals for the pixel electrodes applied through the switching elements.

Claim 20:

- the first display signal wire 134 inherently transmits a ground voltage or power supply to IC 140.

Claims 21-22:

- the first display signal wire transmits data signals for the pixel electrodes, and the second display signal wire controls inherently turning on and off of the switching elements such that the transmission of the data signals to the pixel electrodes is controlled, wherein the first driving signal wire transmits gray voltages, a clock signal, or a driving voltage to the drivers.

Claim 27:

- a substrate;
- a gate driver 140 disposed on the substrate;
- a plurality of gate lines 61 electrically connected to the gate driver;

- a plurality of data lines 21 disposed substantially perpendicular to the plurality of gate lines;
- a plurality of switching elements (TFT), each switching element being connected to at least one gate line and at least one data line; and
- a plurality of pixel electrodes (PE), each pixel electrode being connected to at least one switching element; and a first driving signal line configured to transmit driving signals from an outside of the display panel to the gate driver and also configured to transmit **through gate driver 140** a first test signal via a plurality of first connecting lines to at least one of the plurality of gate lines,

wherein each first connecting line is disposed between, and connected to, the first driving signal line and at least one of the plurality of gate lines.

Claim 28:

- the gate driver is an integrated chip.

Claim 29:

- the plurality of first connecting lines is configured to be severable along a single linear cutting path along L1.

Claim 31:

- a second driving signal wire configured to transmit driving signals from an outside of the display panel to the gate driver and also configured to transmit a second test signal via a plurality of second connecting lines to at least one of the plurality of gate lines,

wherein each second connecting line is disposed between, and connected to, the second driving signal wire and at least one of the plurality of gate lines, the second driving signal wire is disposed between the first driving signal wire and the plurality of gate lines, and the first connecting lines are longer than the second connecting lines

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14 and 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. (US006172410B1) (or Kim et al. (US6636288B2)) as applied to claims in view of Nishiki et al. (US6111620A).

Nagata et al. (or Kim et al.) fail to disclose a liquid crystal display device comprising a shorting bar intersecting the data lines and the first driving signal line, wherein the shorting bar is configured to be removed by edge grinding along a cutting line.

Nishiki et al. teach (Fig. 1) a liquid crystal display device comprising a shorting bar intersecting the data lines and the first driving signal line, wherein the shorting bar 8 is configured to be removed by edge grinding along a cutting line for detecting leakage defects among the gate wires and those among the data wires, correct the revealed defects, and confirm the corrections easier at a low cost.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal display device as Makinouchi disclosed with a shorting bar intersecting the data lines and the first driving signal line, wherein the shorting bar is configured to be removed by edge grinding along a cutting line for detecting leakage defects among the gate wires and those among the data wires, correct the revealed defects, and confirm the corrections easier at a low cost. (abstract) as Nishiki et al. taught.

Response to Arguments

Applicant's arguments filed on 05/11/2009 have been fully considered but they are not persuasive.

Applicant's ONLY arguments are follows:

1. Nagata does not disclose a first driving signal wire transmitting driving signals from an outside of the display panel to the first display signal lines, wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a first pad connected thereto at a first end thereof and a second pad connected thereto at a second end thereof as claimed in amended independent claim 1 of the present invention.
2. Nagata does not disclose: a first driving signal line configured to transmit driving signals from an outside of the display panel to the gate driver and also configured to

transmit a first test signal via a plurality of first connecting lines to at least one of the plurality of gate lines as claimed in independent claim 27 of the present invention.

3. Nagata does not disclose: wherein each connecting line is disposed between, and connected to, the driving signal line and the at least one of the plurality of gate lines, and the driving signal line and the connecting lines are disposed at substantially the same cross-sectional height from the substrate as claimed in independent claim 32 of the present invention.

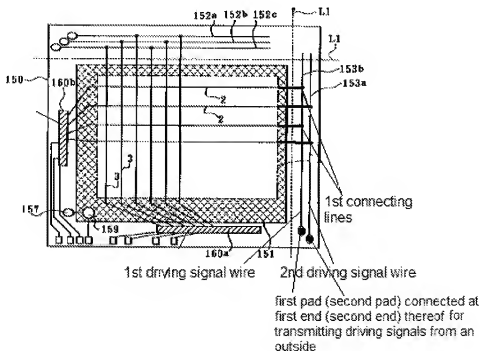
4. Nagata does not disclose: a driving signal line configured to transmit driving signals from an outside of the display panel to at least one of the plurality of data lines and the data driver; and a plurality of connecting lines, each connecting line being disposed between, and connected to, the driving signal line and at least one of the plurality of data lines as claimed in independent claim 33 of the present invention.

5. Kim does not disclose: a first driving signal wire for transmitting driving signals from an outside of the display panel to the first display signal lines, wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a first pad connected thereto at a first end thereof and a second pad connected thereto at a second end thereof as claimed in amended independent claim 1 of the present invention.

6. Kim does not disclose: a first driving signal line configured to transmit driving signals from an outside of the display panel to the gate driver and also configured to transmit a first test signal via a plurality of first connecting lines to at least one of the plurality of gate lines as claimed in independent claim 27 of the present invention.

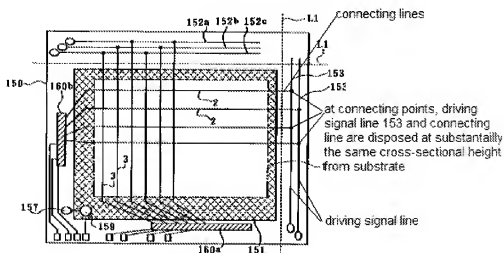
Examiner's responses to Applicants' ONLY arguments are follows:

1. Nagata discloses a first driving signal wire 153b transmitting driving signals from an outside of the display panel to the first display signal lines 2, wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a first pad connected thereto at a first end thereof and a second pad connected thereto at a second end thereof as following drawing:

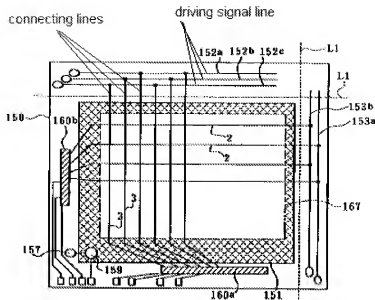


Each of driving wires has a single connecting pad as shown in Fig 17 (Fig. 3 of this invention application shows each of driving wires 321/322 also has a single connecting pad 321p/322p. (Also see the 112-rejection and drawing objection).

2. Nagata discloses a first driving signal line configured to transmit driving signals from an outside of the display panel to the gate driver 160b through first display signal lines/gate lines 2 and also configured to transmit a first test signal via a plurality of first connecting lines to at least one of the plurality of gate lines as claimed in independent claim 27 of the present invention.
3. Nagata discloses: wherein each connecting line is disposed between, and connected to, the driving signal line and the at least one of the plurality of gate lines, the connecting lines are disposed at substantially the same cross-sectional height from the substrate at connecting points as shown in the below figure:



4. Nagata does not disclose: a driving signal line configured to transmit driving signals from an outside of the display panel to at least one of the plurality of data lines and the data driver; and a plurality of connecting lines, each connecting line being disposed between, and connected to, the driving signal line and at least one of the plurality of data lines as shown in below figure:



5. As discussed in Drawing Objection and 112-rejection above, a first driving signal wire cannot include a first pad connected thereto at a first end thereof and a second pad connected thereto at a second end thereof as claimed in amended independent claim 1 of the present invention.

6. Kim discloses: a first driving signal line configured to transmit driving signals from an outside of the display panel to the gate driver 140 and also configured to transmit through gate driver 140 a first test signal via a plurality of first connecting lines to at least one of the plurality of gate lines as claimed in independent claim 27 of the present invention.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571)272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOAN C. NGUYEN
Examiner
Art Unit 2871

Chn

/Andrew Schechter/
Primary Examiner, Art Unit 2871